

## **REPLACEMENT ABSTRACT**

A texture image compressing device includes a separating unit configured to separate intensity maps, including intensity values and light source-independent texture images, those images including color components from a plurality of texture images corresponding to different light source directions and different viewpoint directions. The device includes an intensity map compressing unit configured to compress the intensity maps to generate compressed intensity maps and representative intensity maps that are codebooks of the compressed intensity maps, a light source-independent texture image compressing unit configured to compress the light source-independent texture images to generate light source-independent texture compressed images and color component conversion tables that are codebooks of the light source-independent texture compressed images, and a compressed texture generating unit configured to generate compressed textures by combining the compressed intensity maps, the representative intensity maps, the light source-independent texture compressed images and the color component conversion tables.